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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/827,040 | 04/19/2004 | Jay D. White | HEND-BC-REG-CIP (45007-28) | 2384 |
| 24120 7590 02/22/2007 DAVID P DURESKA BUCKINGHAM DOOLITTLE & BURROUGHS, LLP 4518 FULTON DRIVE, NW P O BOX 35548 CANTON, OH 44735-5548 | | | EXAMINER BELLINGER, JASON R | |
| | | | ART UNIT 3617 | PAPER NUMBER |
| SHORTENED STATUTORY PERIOD OF RESPONSE | | MAIL DATE | DELIVERY MODE | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/827,040

Applicant(s)

WHITE ET AL:

Examiner

Jason R. Bellinger

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27,33 and 34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27,33-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

Claim Objections

1. Claims 1-27 and 33-34 are objected to because of the following informalities:
The claims all seem to lack periods (.) at the end of the claims. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3, 5, 7, 12-13, 15, 17, 22-23, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Le Chatelier. Le Chatelier et al shows a tire inflation system including an air supply source 134 in selective communication with a tire 123. A pneumatic conduit extends between the air supply source 134 and the tire 123. A first valve 131 is in fluid communication with the pneumatic conduit, and includes open and closed positions. Air passes from the air supply source 134 through a first portion 133 of the conduit to the first valve 131. When the first valve 131 is open, the air then passes through the first valve 131 to a second portion 129 of the conduit.

A second valve 128 is disposed between the second portion 129 of the conduit and a third portion 126 of the conduit, and includes both open and closed positions and first and second channels. In the open position, the first channel aligns with the second 129 and third 126 portions of the conduit, allowing air to pass therethrough. When in the

closed position, the second channel of the second valve 128 aligns with the third portion 126 of the conduit, and air vents to the atmosphere from the third portion 126 of the conduit (namely through the second valve's 128 connection with exhaust valve 137).

A rotary union 125 is in fluid communication with the third portion 126 of the conduit adjacent the tire 123. A first pressure indicator 135 is in fluid communication with the first portion 133 of the conduit to indicate the air pressure therein. A second pressure indicator 127 is in fluid communication with the third portion 126 of the conduit to indicate the air pressure therein. A control unit 140 is operatively connected to the first 131 and second 128 valves, and the first 135 and second 127 pressure indicators. The control unit 140 accepts direct input of a target air pressure setting for the tire 123. A vent tube 138 is fluidly connected to the second channel of the second valve 128, and further includes a porting structure 137.

As set forth in column 8, line 36 through column 9, line 31, the tire inflation system of Le Chatelier et al includes the steps of: determining the inflation pressure with a step-up procedure, whereby small bursts of air (of a generally predetermined volume) from the air supply move into a portion of the conduit between the air supply and the tire retention valve; inflating the tire with an extended-pulse procedure; and performing a shut-down sequence once a predetermined inflation pressure is reached. The proper functioning of the pressure retention valve, and the testing of the integrity of a portion of the conduit would also be performed.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 4, 6, 8-11, 14, 16, 18-21, and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Le Chatelier. Le Chatelier et al contains all of the limitations as set forth in paragraph 3 above, but does not specify that the control unit includes a warning light system. However, it is well known in the art that tire inflation systems including a control unit for monitoring air pressure in tires may include warning systems for indicating when air pressure is lost, etc., in order to allow the vehicle operator to know when there is a problem with the air pressure in the tires during operation. These warning systems may include one or more lights that illuminate to indicate the problems occurring.

Le Chatelier et al does not specify that the volume of the air burst(s) is related to the volume of a section of the conduit, nor the procedure of how the air burst volume is calculated. However, it would have been obvious to one of ordinary skill in the art at the time of the invention that the volume of the air burst would be related to the volume of a section of the conduit in order to prevent the conduit from rupturing due to an air burst having a volume greater than the conduit can manage. Furthermore, it would be obvious to one of ordinary skill in the art at the time of the invention to calculate the

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volume of the air burst by determining the pressure capacity of the conduit first and comparing that value to the desired pressure of the system (i.e. the tire).

While Le Chatelier et al does not specify how the proper functioning of the pressure retention valve and/or pneumatic conduit would be achieved, it would have been obvious to one of ordinary skill in the art at the time of the invention to compare multiple readings of the pressure in a sealed portion of the conduit between the retention valve and the first valve, and either reseating or replacing either the valve(s) and/or conduit until the pressure is retained in the system. The pressure indicators would also be tested for proper functioning. The entire tire inflation system would be tested for proper functioning, which would include a diagnostic program having warning lights to indicate problems, and a timing device to record the efficiency of the system.

6. Claims 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Le Chatelier as applied to claims 1-27 above, and further in view of Ingram ('949). Le Chatelier et al does not specify the structure of a hose connection (aka rotary union) connected to the third portion of the conduit.

Ingram teaches the use of a hose connection having a tee-fitting 84 with a male member 60, and a bulkhead fitting 52 having a counterbore 58 for receiving the male member 60. The counterbore 58 includes a base with a sealing ring 72 therein, which contacts a portion of the male member 60, thus reducing any air leakage through the hose connection. The hose connection further includes an air tube (86 & 88) having a

shoulder fitting 90. The tee-fitting 84 includes counterbores formed about an air channel, which receives the shoulder fitting 90.

While not shown, it is well known that the quick-release should fittings 90 would bottom out in the counterbores of the tee-fitting, thus allowing the shoulder fitting of the hoses to be easily and quickly released during maintenance, etc.

Therefore from these teachings, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the tire inflation system of Le Chatelier et al with a rotary union hose connection, as a substitution of equivalent air delivery means, dependent upon cost, availability, and the environment in which the vehicle will be used.

Response to Arguments

7. Applicant's arguments filed 27 December 2006 have been fully considered but they are not persuasive. The amendments to the claims do not overcome the rejections set forth above. The Applicant argues that claim 22 has been clarified to state that the invention is an "inflation-only system". However, claim 22 does not state this limitation. Furthermore, the limitations in claim 22 regarding the step-up procedure are method limitations within an apparatus claim, and thus receive not patentable weight (see MPEP 2113).

The Applicant argues that the Le Chatelier reference is an inflate/deflate system, which does not read on the "inflate only" system of the instant claims, since the system of Le Chatelier is more complex than that of the claimed invention. The system

disclosed in Le Chatelier allows inflation of a vehicle tire, and therefore meets the limitations of the claims, regardless of the fact that the Le Chatelier system has the additional feature of allowing deflation of the tire. In other words, since the Le Chatelier reference contains inflation structure, it meets the limitations of the claims and is a proper reference.

The Applicant states that claims 1 and 22 have been amended "to recite features of the invention that are not taught or disclosed by Le Chatelier '879". However, Le Chatelier is still considered to meet the limitations of the amended claims, as set forth in the action above.

The Applicant states that the Examiner acknowledged that inflation-only systems are "different and distinct from known inflate/deflate systems" during a telephonic interview. While this Examiner did agree that there are differences in inflation-only and inflate-deflate systems, the pending claims do not contain any method steps or structure that isn't present and/or obvious under the references used in the rejections above.

During the telephonic interview, the Applicant indicated that, if needed, a demonstration of how the instant invention works versus Le Chatelier would be provided. However, such a demonstration was not provided in the amendment filed 27 December 2006. It is suggested that the Applicant provide such a demonstration and/or amend the claims to overcome the references.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason R. Bellinger whose telephone number is 571-272-6680. The examiner can normally be reached on Mon - Thurs (9:00-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Morano can be reached on 571-272-6684. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jason R Bellinger
Primary Examiner
Art Unit 3617

A handwritten signature in black ink, appearing to read 'JRB', with a long, sweeping underline that extends downwards and to the left.